

**Tetra Tech, Inc.**  
**DATA VALIDATION REPORT**  
**LEVEL II**

Site: West Lake Landfill Site, Bridgeton, Missouri  
Laboratory: TestAmerica Laboratories, Inc. (Knoxville, Tennessee)  
Data Reviewer: Harry Ellis, Tetra Tech, Inc. (Tetra Tech)  
Review Date: August 12, 2014  
Sample Delivery Group (SDG): J1739  
Sample Numbers: WAA-01-SU-PS-20140724, WAA-02-SU-PS-20140724, WAA-03-SU-PS-20140724, WAA-04-SU-PS-20140724, WAA-04-SU-DU-20140724, WAA-05-SU-PS-20140724, and WAA-00-SU-TB-20140724  
Matrix / Number of Samples: 5 Air Samples, 1 Field Duplicate Sample, and 1 Trip Blank

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

*Harry N. Ellis III*

12 August 2014

\_\_\_\_\_  
Certified by Harry Ellis, Chemist

\_\_\_\_\_  
Date



## DATA VALIDATION QUALIFIERS

- U** — The analyte was not detected above the reported sample quantitation limit.
- J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.
- R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.

## DATA ASSESSMENT

Sample delivery group (SDG) J1739 included five (5) environmental air (passivated canister) samples and two (2) QC samples (a field duplicated and a trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

### VOLATILE ORGANIC COMPOUND ANALYSIS

#### I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

#### II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

#### III. Blanks

The laboratory (method) blank yielded no detectable concentrations of analytes. However, the trip blank yielded low concentrations of trichloroethene and the common laboratory contaminant methylene chloride. The similar concentrations of methylene chloride in all other field samples and of trichloroethene in sample WAA-02-SU-PS-20140724 were qualified as laboratory artifacts and flagged "U". The concentrations of trichloroethene in sample WAA-04-SU-PS-20140724 and its field duplicate were higher, but less than 10 times the blank concentration. Therefore they were qualified as estimates, possibly biased high, and flagged "J".

#### IV. Laboratory Control Sample (LCS)

All percent recoveries from the LCS analysis were within established control limits. No qualifications were applied.

#### V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

#### VI. Comments

Most detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

#### VII. Overall Assessment of Data

Overall data quality is acceptable, with few qualifications added. All data are usable as qualified for their intended purposes.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

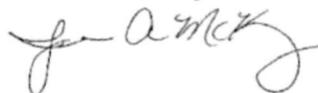
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Knoxville  
5815 Middlebrook Pike  
Knoxville, TN 37921  
Tel: (865)291-3000

TestAmerica Job ID: 140-1739-1  
Client Project/Site: West Lake Landfill

For:  
Tetra Tech EM Inc.  
415 Oak Street  
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher



Authorized for release by:  
7/31/2014 9:37:05 AM

Jamie McKinney, Senior Project Manager  
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### LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

### Qualifiers

#### Air - GC/MS VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| ±              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains no Free Liquid   |
| DER            | Duplicate error ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision level concentration  |
| MDA            | Minimum detectable activity   |
| EDL            | Estimated Detection Limit   |
| MDC            | Minimum detectable concentration  |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative error ratio  |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

## Case Narrative

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

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**Job ID: 140-1739-1**

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**Laboratory: TestAmerica Knoxville**

**Narrative**

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**Job Narrative**  
**140-1739-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 7/29/2014 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Except:**

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC):  
WAA-01-SU-PS-20140724 (140-1739-1). The container ID is 09592 , while the COC lists 09542.

**Air - GC/MS VOA**

Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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# Detection Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

**Client Sample ID: WAA-01-SU-PS-20140724**

**Lab Sample ID: 140-1739-1**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | DII Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.063  | J         | 0.20 | 0.031 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.093  | J         | 0.20 | 0.056 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.11   | J         | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.16   | J         | 0.20 | 0.035 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloroform                            | 0.31   |           | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 0.97   |           | 0.50 | 0.16  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 0.44   |           | 0.20 | 0.068 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.22   | J         | 0.50 | 0.13  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 0.21   |           | 0.20 | 0.024 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | DII Fac | D | Method | Prep Type |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.48   | J         | 1.5  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.30   | J         | 0.64 | 0.18  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.69   | J         | 1.3  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.41   | J         | 0.53 | 0.092 | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroform                            | 1.5    |           | 0.98 | 0.19  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 2.0    |           | 1.0  | 0.33  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 2.2    |           | 0.99 | 0.34  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.78   | J         | 1.7  | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 1.2    |           | 1.1  | 0.13  | ug/m3   | 1       |   | TO-15  | Total/NA  |

**Client Sample ID: WAA-02-SU-PS-20140724**

**Lab Sample ID: 140-1739-2**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | DII Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.061  | J         | 0.20 | 0.031 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.065  | J         | 0.20 | 0.056 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.059  | J         | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 0.52   |           | 0.50 | 0.16  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 0.45   |           | 0.20 | 0.068 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.21   | J         | 0.50 | 0.13  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Toluene                               | 0.19   | J         | 0.20 | 0.12  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichloroethene                       | 0.19   | J         | 0.20 | 0.036 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 0.22   |           | 0.20 | 0.024 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | DII Fac | D | Method | Prep Type |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.47   | J         | 1.5  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.21   | J         | 0.64 | 0.18  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.37   | J         | 1.3  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 1.1    |           | 1.0  | 0.33  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 2.2    |           | 0.99 | 0.34  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.74   | J         | 1.7  | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Toluene                               | 0.73   | J         | 0.75 | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichloroethene                       | 1.0    | J         | 1.1  | 0.19  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 1.2    |           | 1.1  | 0.13  | ug/m3   | 1       |   | TO-15  | Total/NA  |

**Client Sample ID: WAA-03-SU-PS-20140724**

**Lab Sample ID: 140-1739-3**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | DII Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.073  | J         | 0.20 | 0.031 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.16   | J         | 0.20 | 0.056 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Bromomethane                          | 0.036  | J         | 0.20 | 0.032 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.23   |           | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Knoxville

## Detection Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

**Client Sample ID: WAA-03-SU-PS-20140724 (Continued)**

**Lab Sample ID: 140-1739-3**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| Chloroethane                          | 0.15   | J         | 0.20 | 0.035 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloroform                            | 0.13   | J         | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 1.0    |           | 0.50 | 0.16  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 0.49   |           | 0.20 | 0.068 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.24   | J         | 0.50 | 0.13  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 0.23   |           | 0.20 | 0.024 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.56   | J         | 1.5  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.50   | J         | 0.64 | 0.18  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Bromomethane                          | 0.14   | J         | 0.78 | 0.12  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 1.4    |           | 1.3  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.38   | J         | 0.53 | 0.092 | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroform                            | 0.66   | J         | 0.98 | 0.19  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 2.1    |           | 1.0  | 0.33  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 2.4    |           | 0.99 | 0.34  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.84   | J         | 1.7  | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 1.3    |           | 1.1  | 0.13  | ug/m3   | 1       |   | TO-15  | Total/NA  |

**Client Sample ID: WAA-04-SU-PS-20140724**

**Lab Sample ID: 140-1739-4**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.076  | J         | 0.20 | 0.031 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.083  | J         | 0.20 | 0.056 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.055  | J         | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.051  | J         | 0.20 | 0.035 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloroform                            | 0.039  | J         | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 0.49   | J         | 0.50 | 0.16  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 0.42   |           | 0.20 | 0.068 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Ethylbenzene                          | 0.086  | J         | 0.20 | 0.068 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.33   | J         | 0.50 | 0.13  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| m-Xylene & p-Xylene                   | 0.19   | J         | 0.20 | 0.12  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Toluene                               | 0.13   | J         | 0.20 | 0.12  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichloroethene                       | 0.39   |           | 0.20 | 0.036 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 0.20   |           | 0.20 | 0.024 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58   | J         | 1.5  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.27   | J         | 0.64 | 0.18  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.35   | J         | 1.3  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.13   | J         | 0.53 | 0.092 | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroform                            | 0.19   | J         | 0.98 | 0.19  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 1.0    | J         | 1.0  | 0.33  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 2.1    |           | 0.99 | 0.34  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Ethylbenzene                          | 0.37   | J         | 0.87 | 0.30  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 1.2    | J         | 1.7  | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| m-Xylene & p-Xylene                   | 0.82   | J         | 0.87 | 0.52  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Toluene                               | 0.48   | J         | 0.75 | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichloroethene                       | 2.1    |           | 1.1  | 0.19  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 1.1    |           | 1.1  | 0.13  | ug/m3   | 1       |   | TO-15  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Knoxville

## Detection Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

**Client Sample ID: WAA-05-SU-PS-20140724**

**Lab Sample ID: 140-1739-5**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.065  | J         | 0.20 | 0.031 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.083  | J         | 0.20 | 0.056 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.056  | J         | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.12   | J         | 0.20 | 0.035 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 0.83   |           | 0.50 | 0.16  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 0.42   |           | 0.20 | 0.068 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.21   | J         | 0.50 | 0.13  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Toluene                               | 0.26   |           | 0.20 | 0.12  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 0.20   |           | 0.20 | 0.024 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50   | J         | 1.5  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.27   | J         | 0.64 | 0.18  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.35   | J         | 1.3  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.32   | J         | 0.53 | 0.092 | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 1.7    |           | 1.0  | 0.33  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 2.1    |           | 0.99 | 0.34  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.73   | J         | 1.7  | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Toluene                               | 0.99   |           | 0.75 | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 1.1    |           | 1.1  | 0.13  | ug/m3   | 1       |   | TO-15  | Total/NA  |

**Client Sample ID: WAA-04-SU-DU-20140724**

**Lab Sample ID: 140-1739-6**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.066  | J         | 0.20 | 0.031 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.081  | J         | 0.20 | 0.056 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.057  | J         | 0.20 | 0.038 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.066  | J         | 0.20 | 0.035 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 0.48   | J         | 0.50 | 0.16  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| cis-1,2-Dichloroethene                | 0.10   | J         | 0.20 | 0.060 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 0.42   |           | 0.20 | 0.068 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 0.42   | J         | 0.50 | 0.13  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichloroethene                       | 0.30   |           | 0.20 | 0.036 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 0.21   |           | 0.20 | 0.024 | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50   | J         | 1.5  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Benzene                               | 0.26   | J         | 0.64 | 0.18  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Carbon tetrachloride                  | 0.36   | J         | 1.3  | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloroethane                          | 0.17   | J         | 0.53 | 0.092 | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Chloromethane                         | 0.99   | J         | 1.0  | 0.33  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| cis-1,2-Dichloroethene                | 0.41   | J         | 0.79 | 0.24  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Dichlorodifluoromethane               | 2.1    |           | 0.99 | 0.34  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Methylene Chloride                    | 1.5    | J         | 1.7  | 0.45  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichloroethene                       | 1.6    |           | 1.1  | 0.19  | ug/m3   | 1       |   | TO-15  | Total/NA  |
| Trichlorofluoromethane                | 1.2    |           | 1.1  | 0.13  | ug/m3   | 1       |   | TO-15  | Total/NA  |

**Client Sample ID: WAA-00-SU-TB-20140724**

**Lab Sample ID: 140-1739-7**

| Analyte            | Result | Qualifier | RL   | MDL   | Unit    | Dil Fac | D | Method | Prep Type |
|--------------------|--------|-----------|------|-------|---------|---------|---|--------|-----------|
| Methylene Chloride | 0.15   | J         | 0.50 | 0.13  | ppb v/v | 1       |   | TO-15  | Total/NA  |
| Trichloroethene    | 0.042  | J         | 0.20 | 0.036 | ppb v/v | 1       |   | TO-15  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Knoxville

# Detection Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-00-SU-TB-20140724 (Continued)

Lab Sample ID: 140-1739-7

| Analyte            | Result | Qualifier | RL  | MDL  | Unit  | Dil Fac | D | Method | Prep Type |
|--------------------|--------|-----------|-----|------|-------|---------|---|--------|-----------|
| Methylene Chloride | 0.51   | J         | 1.7 | 0.45 | ug/m3 | 1       |   | TO-15  | Total/NA  |
| Trichloroethene    | 0.23   | J         | 1.1 | 0.19 | ug/m3 | 1       |   | TO-15  | Total/NA  |

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This Detection Summary does not include radiochemical test results.

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-01-SU-PS-20140724

Lab Sample ID: 140-1739-1

Date Collected: 07/24/14 08:50

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte                                | Result            | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|-------------------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane                  | ND                |           | 0.20 | 0.030 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND                |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.063             | J         | 0.20 | 0.031 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,1,2-Trichloroethane                  | ND                |           | 0.20 | 0.054 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,1-Dichloroethane                     | ND                |           | 0.20 | 0.026 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,1-Dichloroethene                     | ND                |           | 0.20 | 0.034 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,2,4-Trichlorobenzene                 | ND                |           | 1.0  | 0.098 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,2,4-Trimethylbenzene                 | ND                |           | 0.20 | 0.063 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND                |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,2-Dichlorobenzene                    | ND                |           | 0.20 | 0.070 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,2-Dichloroethane                     | ND                |           | 0.20 | 0.047 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,2-Dichloropropane                    | ND                |           | 0.20 | 0.052 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,3,5-Trimethylbenzene                 | ND                |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,3-Dichlorobenzene                    | ND                |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,4-Dichlorobenzene                    | ND                |           | 0.20 | 0.064 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Benzene                                | 0.093             | J         | 0.20 | 0.056 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Benzyl chloride                        | ND                |           | 0.40 | 0.078 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Bromomethane                           | ND                |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Carbon tetrachloride                   | 0.11              | J         | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Chlorobenzene                          | ND                |           | 0.20 | 0.049 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Chloroethane                           | 0.16              | J         | 0.20 | 0.035 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Chloroform                             | 0.31              |           | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Chloromethane                          | 0.97              |           | 0.50 | 0.16  | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| cis-1,2-Dichloroethene                 | ND                |           | 0.20 | 0.060 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| cis-1,3-Dichloropropene                | ND                |           | 0.20 | 0.074 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Dichlorodifluoromethane                | 0.44              |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Ethylbenzene                           | ND                |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| 1,2-Dibromoethane (EDB)                | ND                |           | 0.20 | 0.044 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Hexachlorobutadiene                    | ND                |           | 1.0  | 0.078 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Methylene Chloride                     | <del>0.22</del> U |           | 0.50 | 0.13  | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| m-Xylene & p-Xylene                    | ND                |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| o-Xylene                               | ND                |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Styrene                                | ND                |           | 0.20 | 0.058 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Tetrachloroethene                      | ND                |           | 0.20 | 0.040 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Toluene                                | ND                |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| trans-1,3-Dichloropropene              | ND                |           | 0.20 | 0.048 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Trichloroethene                        | ND                |           | 0.20 | 0.036 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Trichlorofluoromethane                 | 0.21              |           | 0.20 | 0.024 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Vinyl chloride                         | ND                |           | 0.20 | 0.071 | ppb v/v |   |          | 07/29/14 20:24 | 1       |
| Analyte                                | Result            | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
| 1,1,1-Trichloroethane                  | ND                |           | 1.1  | 0.16  | ug/m3   |   |          | 07/29/14 20:24 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND                |           | 1.4  | 0.42  | ug/m3   |   |          | 07/29/14 20:24 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.48              | J         | 1.5  | 0.24  | ug/m3   |   |          | 07/29/14 20:24 | 1       |
| 1,1,2-Trichloroethane                  | ND                |           | 1.1  | 0.29  | ug/m3   |   |          | 07/29/14 20:24 | 1       |
| 1,1-Dichloroethane                     | ND                |           | 0.81 | 0.11  | ug/m3   |   |          | 07/29/14 20:24 | 1       |
| 1,1-Dichloroethene                     | ND                |           | 0.79 | 0.13  | ug/m3   |   |          | 07/29/14 20:24 | 1       |

HVG 12 August 2014

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-01-SU-PS-20140724

Lab Sample ID: 140-1739-1

Date Collected: 07/24/14 08:50

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                                | Result              | Qualifier        | RL            | MDL   | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|--|---------------------|------------------|---------------|-------|-------|---|-----------------|-----------------|----------------|
| 1,2,4-Trichlorobenzene                 | ND                  |                  | 7.4           | 0.73  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,2,4-Trimethylbenzene                 | ND                  |                  | 0.98          | 0.31  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND                  |                  | 1.4           | 0.22  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,2-Dichlorobenzene                    | ND                  |                  | 1.2           | 0.42  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,2-Dichloroethane                     | ND                  |                  | 0.81          | 0.19  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,2-Dichloropropane                    | ND                  |                  | 0.92          | 0.24  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,3,5-Trimethylbenzene                 | ND                  |                  | 0.98          | 0.32  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,3-Dichlorobenzene                    | ND                  |                  | 1.2           | 0.39  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,4-Dichlorobenzene                    | ND                  |                  | 1.2           | 0.38  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Benzene                                | 0.30                | J                | 0.64          | 0.18  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Benzyl chloride                        | ND                  |                  | 2.1           | 0.40  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Bromomethane                           | ND                  |                  | 0.78          | 0.12  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Carbon tetrachloride                   | 0.69                | J                | 1.3           | 0.24  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Chlorobenzene                          | ND                  |                  | 0.92          | 0.23  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Chloroethane                           | 0.41                | J                | 0.53          | 0.092 | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Chloroform                             | 1.5                 |                  | 0.98          | 0.19  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Chloromethane                          | 2.0                 |                  | 1.0           | 0.33  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| cis-1,2-Dichloroethene                 | ND                  |                  | 0.79          | 0.24  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| cis-1,3-Dichloropropene                | ND                  |                  | 0.91          | 0.34  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Dichlorodifluoromethane                | 2.2                 |                  | 0.99          | 0.34  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Ethylbenzene                           | ND                  |                  | 0.87          | 0.30  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| 1,2-Dibromoethane (EDB)                | ND                  |                  | 1.5           | 0.34  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Hexachlorobutadiene                    | ND                  |                  | 11            | 0.83  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Methylene Chloride                     | <del>0.78</del> 1.7 | J                | 1.7           | 0.45  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| m-Xylene & p-Xylene                    | ND                  |                  | 0.87          | 0.52  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| o-Xylene                               | ND                  |                  | 0.87          | 0.26  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Styrene                                | ND                  |                  | 0.85          | 0.25  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Tetrachloroethene                      | ND                  |                  | 1.4           | 0.27  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Toluene                                | ND                  |                  | 0.75          | 0.45  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| trans-1,3-Dichloropropene              | ND                  |                  | 0.91          | 0.22  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Trichloroethene                        | ND                  |                  | 1.1           | 0.19  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Trichlorofluoromethane                 | 1.2                 |                  | 1.1           | 0.13  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| Vinyl chloride                         | ND                  |                  | 0.51          | 0.18  | ug/m3 |   |                 | 07/29/14 20:24  | 1              |
| <b>Surrogate</b>                       | <b>%Recovery</b>    | <b>Qualifier</b> | <b>Limits</b> |       |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 4-Bromofluorobenzene (Surr)            | 115                 |                  | 60 - 140      |       |       |   |                 | 07/29/14 20:24  | 1              |

Client Sample ID: WAA-02-SU-PS-20140724

Lab Sample ID: 140-1739-2

Date Collected: 07/24/14 09:21

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane                 | ND     |           | 0.20 | 0.030 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.061  | J         | 0.20 | 0.031 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 0.20 | 0.054 | ppb v/v |   |          | 07/29/14 21:07 | 1       |

HVE 12 Aug 14

TestAmerica Knoxville

# Client Sample Results

Client Tetra Tech EM Inc  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-02-SU-PS-20140724

Lab Sample ID: 140-1739-2

Date Collected: 07/24/14 09:21

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                                | Result              | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|---------------------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1-Dichloroethane                     | ND                  |           | 0.20 | 0.026 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,1-Dichloroethane                     | ND                  |           | 0.20 | 0.034 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,2,4-Trichlorobenzene                 | ND                  |           | 1.0  | 0.098 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,2,4-Trimethylbenzene                 | ND                  |           | 0.20 | 0.063 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND                  |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dichlorobenzene                    | ND                  |           | 0.20 | 0.070 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dichloroethane                     | ND                  |           | 0.20 | 0.047 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dichloropropane                    | ND                  |           | 0.20 | 0.052 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,3,5-Trimethylbenzene                 | ND                  |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,3-Dichlorobenzene                    | ND                  |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,4-Dichlorobenzene                    | ND                  |           | 0.20 | 0.064 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Benzene                                | 0.065               | J         | 0.20 | 0.056 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Benzyl chloride                        | ND                  |           | 0.40 | 0.078 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Bromomethane                           | ND                  |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Carbon tetrachloride                   | 0.059               | J         | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Chlorobenzene                          | ND                  |           | 0.20 | 0.049 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Chloroethane                           | ND                  |           | 0.20 | 0.035 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Chloroform                             | ND                  |           | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Chloromethane                          | 0.52                |           | 0.50 | 0.16  | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| cis-1,2-Dichloroethene                 | ND                  |           | 0.20 | 0.060 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| cis-1,3-Dichloropropene                | ND                  |           | 0.20 | 0.074 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Dichlorodifluoromethane                | 0.45                |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Ethylbenzene                           | ND                  |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dibromoethane (EDB)                | ND                  |           | 0.20 | 0.044 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Hexachlorobutadiene                    | ND                  |           | 1.0  | 0.078 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Methylene Chloride                     | <del>0.21</del> → U |           | 0.50 | 0.13  | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| m-Xylene & p-Xylene                    | ND                  |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| o-Xylene                               | ND                  |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Styrene                                | ND                  |           | 0.20 | 0.058 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Tetrachloroethene                      | ND                  |           | 0.20 | 0.040 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Toluene                                | 0.19                | J         | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| trans-1,3-Dichloropropene              | ND                  |           | 0.20 | 0.048 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Trichloroethene                        | <del>0.19</del> → U |           | 0.20 | 0.036 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Trichlorofluoromethane                 | 0.22                |           | 0.20 | 0.024 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Vinyl chloride                         | ND                  |           | 0.20 | 0.071 | ppb v/v |   |          | 07/29/14 21:07 | 1       |
| Analyte                                | Result              | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
| 1,1,1-Trichloroethane                  | ND                  |           | 1.1  | 0.16  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND                  |           | 1.4  | 0.42  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.47                | J         | 1.5  | 0.24  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,1,2-Trichloroethane                  | ND                  |           | 1.1  | 0.29  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,1-Dichloroethane                     | ND                  |           | 0.81 | 0.11  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,1-Dichloroethene                     | ND                  |           | 0.79 | 0.13  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,2,4-Trichlorobenzene                 | ND                  |           | 7.4  | 0.73  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,2,4-Trimethylbenzene                 | ND                  |           | 0.98 | 0.31  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND                  |           | 1.4  | 0.22  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dichlorobenzene                    | ND                  |           | 1.2  | 0.42  | ug/m3   |   |          | 07/29/14 21:07 | 1       |
| 1,2-Dichloroethane                     | ND                  |           | 0.81 | 0.19  | ug/m3   |   |          | 07/29/14 21:07 | 1       |

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TestAmerica Knoxville

## Client Sample Results

Client Tetra Tech EM Inc  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-02-SU-PS-20140724

Lab Sample ID: 140-1739-2

Date Collected: 07/24/14 09:21

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                     | Result              | Qualifier        | RL            | MDL   | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------------|---------------------|------------------|---------------|-------|-------|---|-----------------|-----------------|----------------|
| 1,2-Dichloropropane         | ND                  |                  | 0.92          | 0.24  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| 1,3,5-Trimethylbenzene      | ND                  |                  | 0.98          | 0.32  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| 1,3-Dichlorobenzene         | ND                  |                  | 1.2           | 0.39  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| 1,4-Dichlorobenzene         | ND                  |                  | 1.2           | 0.38  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Benzene                     | 0.21                | J                | 0.84          | 0.18  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Benzyl chloride             | ND                  |                  | 2.1           | 0.40  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Bromomethane                | ND                  |                  | 0.78          | 0.12  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Carbon tetrachloride        | 0.37                | J                | 1.3           | 0.24  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Chlorobenzene               | ND                  |                  | 0.92          | 0.23  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Chloroethane                | ND                  |                  | 0.53          | 0.092 | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Chloroform                  | ND                  |                  | 0.98          | 0.19  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Chloromethane               | 1.1                 |                  | 1.0           | 0.33  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| cis-1,2-Dichloroethene      | ND                  |                  | 0.79          | 0.24  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| cis-1,3-Dichloropropene     | ND                  |                  | 0.91          | 0.34  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Dichlorodifluoromethane     | 2.2                 |                  | 0.99          | 0.34  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Ethylbenzene                | ND                  |                  | 0.87          | 0.30  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| 1,2-Dibromoethane (EDB)     | ND                  |                  | 1.5           | 0.34  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Hexachlorobutadiene         | ND                  |                  | 11            | 0.83  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Methylene Chloride          | <del>0.74</del> J U |                  | 1.7           | 0.45  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| m-Xylene & p-Xylene         | ND                  |                  | 0.87          | 0.52  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| o-Xylene                    | ND                  |                  | 0.87          | 0.26  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Styrene                     | ND                  |                  | 0.85          | 0.25  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Tetrachloroethene           | ND                  |                  | 1.4           | 0.27  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Toluene                     | 0.73                | J                | 0.75          | 0.45  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| trans-1,3-Dichloropropene   | ND                  |                  | 0.91          | 0.22  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Trichloroethene             | <del>1.0</del> J U  |                  | 1.1           | 0.19  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Trichlorofluoromethane      | 1.2                 |                  | 1.1           | 0.13  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| Vinyl chloride              | ND                  |                  | 0.51          | 0.18  | ug/m3 |   |                 | 07/29/14 21:07  | 1              |
| <b>Surrogate</b>            | <b>%Recovery</b>    | <b>Qualifier</b> | <b>Limits</b> |       |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 4-Bromofluorobenzene (Surr) | 111                 |                  | 60 - 140      |       |       |   |                 | 07/29/14 21:07  | 1              |

Client Sample ID: WAA-03-SU-PS-20140724

Lab Sample ID: 140-1739-3

Date Collected: 07/24/14 09:42

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane                  | ND     |           | 0.20 | 0.030 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.073  | J         | 0.20 | 0.031 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 0.20 | 0.054 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.20 | 0.026 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.20 | 0.034 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 1.0  | 0.098 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.20 | 0.063 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 21:51 | 1       |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-03-SU-PS-20140724

Lab Sample ID: 140-1739-3

Date Collected: 07/24/14 09:42

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte                                | Result            | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | DII Fac |
|--|-------------------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,2-Dichlorobenzene                    | ND                |           | 0.20 | 0.070 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dichloroethane                     | ND                |           | 0.20 | 0.047 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dichloropropane                    | ND                |           | 0.20 | 0.052 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,3,5-Trimethylbenzene                 | ND                |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,3-Dichlorobenzene                    | ND                |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,4-Dichlorobenzene                    | ND                |           | 0.20 | 0.064 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Benzene                                | 0.16              | J         | 0.20 | 0.056 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Benzyl chloride                        | ND                |           | 0.40 | 0.078 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Bromomethane                           | 0.036             | J         | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Carbon tetrachloride                   | 0.23              |           | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Chlorobenzene                          | ND                |           | 0.20 | 0.049 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Chloroethane                           | 0.15              | J         | 0.20 | 0.035 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Chloroform                             | 0.13              | J         | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Chloromethane                          | 1.0               |           | 0.50 | 0.16  | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| cis-1,2-Dichloroethene                 | ND                |           | 0.20 | 0.060 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| cis-1,3-Dichloropropene                | ND                |           | 0.20 | 0.074 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Dichlorodifluoromethane                | 0.49              |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Ethylbenzene                           | ND                |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dibromoethane (EDB)                | ND                |           | 0.20 | 0.044 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Hexachlorobutadiene                    | ND                |           | 1.0  | 0.078 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Methylene Chloride                     | <del>0.24</del> U |           | 0.50 | 0.13  | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| m-Xylene & p-Xylene                    | ND                |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| o-Xylene                               | ND                |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Styrene                                | ND                |           | 0.20 | 0.058 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Tetrachloroethene                      | ND                |           | 0.20 | 0.040 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Toluene                                | ND                |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| trans-1,3-Dichloropropene              | ND                |           | 0.20 | 0.048 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Trichloroethene                        | ND                |           | 0.20 | 0.036 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Trichlorofluoromethane                 | 0.23              |           | 0.20 | 0.024 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Vinyl chloride                         | ND                |           | 0.20 | 0.071 | ppb v/v |   |          | 07/29/14 21:51 | 1       |
| Analyte                                | Result            | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | DII Fac |
| 1,1,1-Trichloroethane                  | ND                |           | 1.1  | 0.16  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND                |           | 1.4  | 0.42  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.56              | J         | 1.5  | 0.24  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,1,2-Trichloroethane                  | ND                |           | 1.1  | 0.29  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,1-Dichloroethane                     | ND                |           | 0.81 | 0.11  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,1-Dichloroethene                     | ND                |           | 0.79 | 0.13  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,2,4-Trichlorobenzene                 | ND                |           | 7.4  | 0.73  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,2,4-Trimethylbenzene                 | ND                |           | 0.98 | 0.31  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND                |           | 1.4  | 0.22  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dichlorobenzene                    | ND                |           | 1.2  | 0.42  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dichloroethane                     | ND                |           | 0.81 | 0.19  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,2-Dichloropropane                    | ND                |           | 0.92 | 0.24  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,3,5-Trimethylbenzene                 | ND                |           | 0.98 | 0.32  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,3-Dichlorobenzene                    | ND                |           | 1.2  | 0.39  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| 1,4-Dichlorobenzene                    | ND                |           | 1.2  | 0.38  | ug/m3   |   |          | 07/29/14 21:51 | 1       |
| Benzene                                | 0.50              | J         | 0.64 | 0.18  | ug/m3   |   |          | 07/29/14 21:51 | 1       |

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TestAmerica Knoxville

### Client Sample Results

Client: Tetra Tech EM Inc  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-03-SU-PS-20140724

Lab Sample ID: 140-1739-3

Date Collected: 07/24/14 09:42

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                     | Result              | Qualifier        | RL            | MDL   | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------------|---------------------|------------------|---------------|-------|-------|---|-----------------|-----------------|----------------|
| Benzyl chloride             | ND                  |                  | 2.1           | 0.40  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Bromomethane                | 0.14                | J                | 0.78          | 0.12  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Carbon tetrachloride        | 1.4                 |                  | 1.3           | 0.24  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Chlorobenzene               | ND                  |                  | 0.92          | 0.23  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Chloroethane                | 0.38                | J                | 0.53          | 0.092 | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Chloroform                  | 0.66                | J                | 0.98          | 0.19  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Chloromethane               | 2.1                 |                  | 1.0           | 0.33  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| cis-1,2-Dichloroethane      | ND                  |                  | 0.79          | 0.24  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| cis-1,3-Dichloropropene     | ND                  |                  | 0.91          | 0.34  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Dichlorodifluoromethane     | 2.4                 |                  | 0.99          | 0.34  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Ethylbenzene                | ND                  |                  | 0.87          | 0.30  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| 1,2-Dibromoethane (EDB)     | ND                  |                  | 1.5           | 0.34  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Hexachlorobutadiene         | ND                  |                  | 1.1           | 0.83  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Methylene Chloride          | <del>0.84</del> 1.7 | U                | 1.7           | 0.45  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| m-Xylene & p-Xylene         | ND                  |                  | 0.87          | 0.52  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| o-Xylene                    | ND                  |                  | 0.87          | 0.26  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Styrene                     | ND                  |                  | 0.85          | 0.25  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Tetrachloroethene           | ND                  |                  | 1.4           | 0.27  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Toluene                     | ND                  |                  | 0.75          | 0.45  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| trans-1,3-Dichloropropene   | ND                  |                  | 0.91          | 0.22  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Trichloroethene             | ND                  |                  | 1.1           | 0.19  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Trichlorofluoromethane      | 1.3                 |                  | 1.1           | 0.13  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| Vinyl chloride              | ND                  |                  | 0.51          | 0.18  | ug/m3 |   |                 | 07/29/14 21:51  | 1              |
| <b>Surrogate</b>            | <b>%Recovery</b>    | <b>Qualifier</b> | <b>Limits</b> |       |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 4-Bromofluorobenzene (Surr) | 113                 |                  | 60 - 140      |       |       |   |                 | 07/29/14 21:51  | 1              |

Client Sample ID: WAA-04-SU-PS-20140724

Lab Sample ID: 140-1739-4

Date Collected: 07/24/14 09:50

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane                  | ND     |           | 0.20 | 0.030 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.076  | J         | 0.20 | 0.031 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 0.20 | 0.054 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.20 | 0.026 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.20 | 0.034 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 1.0  | 0.098 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.20 | 0.063 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 0.20 | 0.070 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.20 | 0.047 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.20 | 0.052 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 22:37 | 1       |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-04-SU-PS-20140724

Lab Sample ID: 140-1739-4

Date Collected: 07/24/14 09:50

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                                | Result               | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|----------------------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,4-Dichlorobenzene                    | ND                   |           | 0.20 | 0.064 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Benzene                                | 0.083                | J         | 0.20 | 0.056 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Benzyl chloride                        | ND                   |           | 0.40 | 0.078 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Bromomethane                           | ND                   |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Carbon tetrachloride                   | 0.055                | J         | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Chlorobenzene                          | ND                   |           | 0.20 | 0.049 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Chloroethane                           | 0.051                | J         | 0.20 | 0.035 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Chloroform                             | 0.039                | J         | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Chloromethane                          | 0.49                 | J         | 0.50 | 0.16  | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| cis-1,2-Dichloroethene                 | ND                   |           | 0.20 | 0.060 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| cis-1,3-Dichloropropene                | ND                   |           | 0.20 | 0.074 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Dichlorodifluoromethane                | 0.42                 |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Ethylbenzene                           | 0.086                | J         | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dibromoethane (EDB)                | ND                   |           | 0.20 | 0.044 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Hexachlorobutadiene                    | ND                   |           | 1.0  | 0.078 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Methylene Chloride                     | <del>0.33</del> 0.50 | J         | 0.50 | 0.13  | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| m-Xylene & p-Xylene                    | 0.19                 | J         | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| o-Xylene                               | ND                   |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Styrene                                | ND                   |           | 0.20 | 0.058 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Tetrachloroethene                      | ND                   |           | 0.20 | 0.040 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Toluene                                | 0.13                 | J         | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| trans-1,3-Dichloropropene              | ND                   |           | 0.20 | 0.048 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Trichloroethene                        | 0.39                 | J         | 0.20 | 0.036 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Trichlorofluoromethane                 | 0.20                 |           | 0.20 | 0.024 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Vinyl chloride                         | ND                   |           | 0.20 | 0.071 | ppb v/v |   |          | 07/29/14 22:37 | 1       |
| Analyte                                | Result               | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
| 1,1,1-Trichloroethane                  | ND                   |           | 1.1  | 0.16  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,1,1,2-Tetrachloroethane              | ND                   |           | 1.4  | 0.42  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.58                 | J         | 1.5  | 0.24  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,1,2-Trichloroethane                  | ND                   |           | 1.1  | 0.29  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,1-Dichloroethane                     | ND                   |           | 0.81 | 0.11  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,1-Dichloroethene                     | ND                   |           | 0.79 | 0.13  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,2,4-Trichlorobenzene                 | ND                   |           | 7.4  | 0.73  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,2,4-Trimethylbenzene                 | ND                   |           | 0.98 | 0.31  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND                   |           | 1.4  | 0.22  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichlorobenzene                    | ND                   |           | 1.2  | 0.42  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichloroethane                     | ND                   |           | 0.81 | 0.19  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,2-Dichloropropane                    | ND                   |           | 0.92 | 0.24  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,3,5-Trimethylbenzene                 | ND                   |           | 0.98 | 0.32  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,3-Dichlorobenzene                    | ND                   |           | 1.2  | 0.39  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| 1,4-Dichlorobenzene                    | ND                   |           | 1.2  | 0.38  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| Benzene                                | 0.27                 | J         | 0.64 | 0.18  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| Benzyl chloride                        | ND                   |           | 2.1  | 0.40  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| Bromomethane                           | ND                   |           | 0.78 | 0.12  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| Carbon tetrachloride                   | 0.35                 | J         | 1.3  | 0.24  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| Chlorobenzene                          | ND                   |           | 0.92 | 0.23  | ug/m3   |   |          | 07/29/14 22:37 | 1       |
| Chloroethane                           | 0.13                 | J         | 0.53 | 0.092 | ug/m3   |   |          | 07/29/14 22:37 | 1       |

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TestAmerica Knoxville

## Client Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-04-SU-PS-20140724

Lab Sample ID: 140-1739-4

Date Collected: 07/24/14 09:50

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte                     | Result             | Qualifier        | RL            | MDL  | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------------|--------------------|------------------|---------------|------|-------|---|-----------------|-----------------|----------------|
| Chloroform                  | 0.19               | J                | 0.98          | 0.19 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Chloromethane               | 1.0                | J                | 1.0           | 0.33 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| cis-1,2-Dichloroethene      | ND                 |                  | 0.79          | 0.24 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| cis-1,3-Dichloropropene     | ND                 |                  | 0.91          | 0.34 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Dichlorodifluoromethane     | 2.1                |                  | 0.99          | 0.34 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Ethylbenzene                | 0.37               | J                | 0.87          | 0.30 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| 1,2-Dibromoethane (EDB)     | ND                 |                  | 1.5           | 0.34 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Hexachlorobutadiene         | ND                 |                  | 11            | 0.83 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Methylene Chloride          | <del>1.2</del> 1.7 | J                | 1.7           | 0.45 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| m-Xylene & p-Xylene         | 0.82               | J                | 0.87          | 0.52 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| o-Xylene                    | ND                 |                  | 0.87          | 0.28 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Styrene                     | ND                 |                  | 0.85          | 0.25 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Tetrachloroethene           | ND                 |                  | 1.4           | 0.27 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Toluene                     | 0.48               | J                | 0.75          | 0.45 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| trans-1,3-Dichloropropene   | ND                 |                  | 0.91          | 0.22 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Trichloroethene             | 2.1                | J                | 1.1           | 0.19 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Trichlorofluoromethane      | 1.1                |                  | 1.1           | 0.13 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| Vinyl chloride              | ND                 |                  | 0.51          | 0.18 | ug/m3 |   |                 | 07/29/14 22:37  | 1              |
| <b>Surrogate</b>            | <b>%Recovery</b>   | <b>Qualifier</b> | <b>Limits</b> |      |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 4-Bromofluorobenzene (Surr) | 112                |                  | 60 - 140      |      |       |   |                 | 07/29/14 22:37  | 1              |

Client Sample ID: WAA-05-SU-PS-20140724

Lab Sample ID: 140-1739-5

Date Collected: 07/24/14 09:31

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane                  | ND     |           | 0.20 | 0.030 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.065  | J         | 0.20 | 0.031 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 0.20 | 0.054 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.20 | 0.026 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.20 | 0.034 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 1.0  | 0.098 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.20 | 0.063 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 0.20 | 0.070 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.20 | 0.047 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.20 | 0.052 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,4-Dichlorobenzene                    | ND     |           | 0.20 | 0.064 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Benzene                                | 0.083  | J         | 0.20 | 0.056 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Benzyl chloride                        | ND     |           | 0.40 | 0.078 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Bromomethane                           | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Carbon tetrachloride                   | 0.056  | J         | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 23:22 | 1       |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-05-SU-PS-20140724

Lab Sample ID: 140-1739-5

Date Collected: 07/24/14 09:31

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                                | Result            | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | DII Fac |
|--|-------------------|-----------|------|-------|---------|---|----------|----------------|---------|
| Chlorobenzene                          | ND                |           | 0.20 | 0.049 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Chloroethane                           | 0.12              | J         | 0.20 | 0.035 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Chloroform                             | ND                |           | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Chloromethane                          | 0.83              |           | 0.50 | 0.16  | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| cis-1,2-Dichloroethene                 | ND                |           | 0.20 | 0.060 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| cis-1,3-Dichloropropene                | ND                |           | 0.20 | 0.074 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Dichlorodifluoromethane                | 0.42              |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Ethylbenzene                           | ND                |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dibromoethane (EDB)                | ND                |           | 0.20 | 0.044 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Hexachlorobutadiene                    | ND                |           | 1.0  | 0.078 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Methylene Chloride                     | <del>0.21</del> J | U         | 0.50 | 0.13  | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| m-Xylene & p-Xylene                    | ND                |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| o-Xylene                               | ND                |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Styrene                                | ND                |           | 0.20 | 0.058 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Tetrachloroethene                      | ND                |           | 0.20 | 0.040 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Toluene                                | 0.26              |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| trans-1,3-Dichloropropene              | ND                |           | 0.20 | 0.048 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Trichloroethene                        | ND                |           | 0.20 | 0.036 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Trichlorofluoromethane                 | 0.20              |           | 0.20 | 0.024 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Vinyl chloride                         | ND                |           | 0.20 | 0.071 | ppb v/v |   |          | 07/29/14 23:22 | 1       |
| Analyte                                | Result            | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | DII Fac |
| 1,1,1-Trichloroethane                  | ND                |           | 1.1  | 0.16  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND                |           | 1.4  | 0.42  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.50              | J         | 1.5  | 0.24  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,1,2-Trichloroethane                  | ND                |           | 1.1  | 0.29  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,1-Dichloroethane                     | ND                |           | 0.81 | 0.11  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,1-Dichloroethene                     | ND                |           | 0.79 | 0.13  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,2,4-Trichlorobenzene                 | ND                |           | 7.4  | 0.73  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,2,4-Trimethylbenzene                 | ND                |           | 0.98 | 0.31  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND                |           | 1.4  | 0.22  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichlorobenzene                    | ND                |           | 1.2  | 0.42  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichloroethane                     | ND                |           | 0.81 | 0.19  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,2-Dichloropropane                    | ND                |           | 0.92 | 0.24  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,3,5-Trimethylbenzene                 | ND                |           | 0.98 | 0.32  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,3-Dichlorobenzene                    | ND                |           | 1.2  | 0.39  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| 1,4-Dichlorobenzene                    | ND                |           | 1.2  | 0.38  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Benzene                                | 0.27              | J         | 0.64 | 0.18  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Benzyl chloride                        | ND                |           | 2.1  | 0.40  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Bromomethane                           | ND                |           | 0.78 | 0.12  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Carbon tetrachloride                   | 0.35              | J         | 1.3  | 0.24  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Chlorobenzene                          | ND                |           | 0.92 | 0.23  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Chloroethane                           | 0.32              | J         | 0.53 | 0.092 | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Chloroform                             | ND                |           | 0.98 | 0.19  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Chloromethane                          | 1.7               |           | 1.0  | 0.33  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| cis-1,2-Dichloroethene                 | ND                |           | 0.79 | 0.24  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| cis-1,3-Dichloropropene                | ND                |           | 0.91 | 0.34  | ug/m3   |   |          | 07/29/14 23:22 | 1       |
| Dichlorodifluoromethane                | 2.1               |           | 0.99 | 0.34  | ug/m3   |   |          | 07/29/14 23:22 | 1       |

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TestAmerica Knoxville

### Client Sample Results

Client: Tetra Tech EM Inc  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-05-SU-PS-20140724

Lab Sample ID: 140-1739-5

Date Collected: 07/24/14 09:31

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                     | Result            | Qualifier        | RL            | MDL  | Unit  | D | Prepared        | Analyzed        | DII Fac        |
|-----------------------------|-------------------|------------------|---------------|------|-------|---|-----------------|-----------------|----------------|
| Ethylbenzene                | ND                |                  | 0.87          | 0.30 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| 1,2-Dibromoethane (EDB)     | ND                |                  | 1.5           | 0.34 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Hexachlorobutadiene         | ND                |                  | 11            | 0.83 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Methylene Chloride          | <del>0.73</del> U |                  | 1.7           | 0.45 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| m-Xylene & p-Xylene         | ND                |                  | 0.87          | 0.52 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| o-Xylene                    | ND                |                  | 0.87          | 0.26 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Styrene                     | ND                |                  | 0.85          | 0.25 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Tetrachloroethene           | ND                |                  | 1.4           | 0.27 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Toluene                     | 0.99              |                  | 0.75          | 0.45 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| trans-1,3-Dichloropropene   | ND                |                  | 0.91          | 0.22 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Trichloroethene             | ND                |                  | 1.1           | 0.19 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Trichlorofluoromethane      | 1.1               |                  | 1.1           | 0.13 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| Vinyl chloride              | ND                |                  | 0.51          | 0.18 | ug/m3 |   |                 | 07/29/14 23:22  | 1              |
| <b>Surrogate</b>            | <b>%Recovery</b>  | <b>Qualifier</b> | <b>Limits</b> |      |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>DII Fac</b> |
| 4-Bromofluorobenzene (Surr) | 112               |                  | 60 - 140      |      |       |   |                 | 07/29/14 23:22  | 1              |

Client Sample ID: WAA-04-SU-DU-20140724

Lab Sample ID: 140-1739-6

Date Collected: 07/24/14 09:52

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | DII Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane                  | ND     |           | 0.20 | 0.030 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.066  | J         | 0.20 | 0.031 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 0.20 | 0.054 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.20 | 0.026 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.20 | 0.034 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 1.0  | 0.098 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.20 | 0.063 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 0.20 | 0.070 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.20 | 0.047 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.20 | 0.052 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,4-Dichlorobenzene                    | ND     |           | 0.20 | 0.064 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Benzene                                | 0.081  | J         | 0.20 | 0.056 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Benzyl chloride                        | ND     |           | 0.40 | 0.078 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Bromomethane                           | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Carbon tetrachloride                   | 0.057  | J         | 0.20 | 0.038 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Chlorobenzene                          | ND     |           | 0.20 | 0.049 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Chloroethane                           | 0.066  | J         | 0.20 | 0.035 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Chloroform                             | ND     |           | 0.20 | 0.038 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Chloromethane                          | 0.48   | J         | 0.50 | 0.16  | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| cis-1,2-Dichloroethane                 | 0.10   | J         | 0.20 | 0.080 | ppb v/v |   |          | 07/30/14 00:06 | 1       |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-04-SU-DU-20140724

Lab Sample ID: 140-1739-6

Date Collected: 07/24/14 09:52

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | DII Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| cis-1,3-Dichloropropene                | ND     |           | 0.20 | 0.074 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Dichlorodifluoromethane                | 0.42   |           | 0.20 | 0.068 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Ethylbenzene                           | ND     |           | 0.20 | 0.068 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dibromoethane (EDB)                | ND     |           | 0.20 | 0.044 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Hexachlorobutadiene                    | ND     |           | 1.0  | 0.078 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Methylene Chloride                     | 0.42 J | U         | 0.50 | 0.13  | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| m-Xylene & p-Xylene                    | ND     |           | 0.20 | 0.12  | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| o-Xylene                               | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Styrene                                | ND     |           | 0.20 | 0.058 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Tetrachloroethene                      | ND     |           | 0.20 | 0.040 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Toluene                                | ND     |           | 0.20 | 0.12  | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| trans-1,3-Dichloropropene              | ND     |           | 0.20 | 0.048 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Trichloroethene                        | 0.30   | J         | 0.20 | 0.036 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Trichlorofluoromethane                 | 0.21   |           | 0.20 | 0.024 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Vinyl chloride                         | ND     |           | 0.20 | 0.071 | ppb v/v |   |          | 07/30/14 00:06 | 1       |
| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | DII Fac |
| 1,1,1-Trichloroethane                  | ND     |           | 1.1  | 0.16  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 1.4  | 0.42  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 0.50   | J         | 1.5  | 0.24  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 1.1  | 0.29  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.81 | 0.11  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.79 | 0.13  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 7.4  | 0.73  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.98 | 0.31  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 1.4  | 0.22  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 1.2  | 0.42  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.81 | 0.19  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.92 | 0.24  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.98 | 0.32  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 1.2  | 0.39  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,4-Dichlorobenzene                    | ND     |           | 1.2  | 0.38  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Benzene                                | 0.26   | J         | 0.64 | 0.18  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Benzyl chloride                        | ND     |           | 2.1  | 0.40  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Bromomethane                           | ND     |           | 0.78 | 0.12  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Carbon tetrachloride                   | 0.36   | J         | 1.3  | 0.24  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Chlorobenzene                          | ND     |           | 0.92 | 0.23  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Chloroethane                           | 0.17   | J         | 0.53 | 0.092 | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Chloroform                             | ND     |           | 0.98 | 0.19  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Chloromethane                          | 0.99   | J         | 1.0  | 0.33  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| cis-1,2-Dichloroethene                 | 0.41   | J         | 0.79 | 0.24  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| cis-1,3-Dichloropropene                | ND     |           | 0.91 | 0.34  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Dichlorodifluoromethane                | 2.1    |           | 0.99 | 0.34  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Ethylbenzene                           | ND     |           | 0.87 | 0.30  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| 1,2-Dibromoethane (EDB)                | ND     |           | 1.5  | 0.34  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Hexachlorobutadiene                    | ND     |           | 11   | 0.83  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| Methylene Chloride                     | 1.5    | J         | 1.7  | 0.45  | ug/m3   |   |          | 07/30/14 00:06 | 1       |
| m-Xylene & p-Xylene                    | ND     |           | 0.87 | 0.52  | ug/m3   |   |          | 07/30/14 00:06 | 1       |

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TestAmerica Knoxville

## Client Sample Results

Client: Tetra Tech EM Inc  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-04-SU-DU-20140724

Lab Sample ID: 140-1739-6

Date Collected: 07/24/14 09:52

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                     | Result           | Qualifier        | RL            | MDL  | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------------|------------------|------------------|---------------|------|-------|---|-----------------|-----------------|----------------|
| o-Xylene                    | ND               |                  | 0.87          | 0.26 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| Styrene                     | ND               |                  | 0.85          | 0.25 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| Tetrachloroethene           | ND               |                  | 1.4           | 0.27 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| Toluene                     | ND               |                  | 0.75          | 0.45 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| trans-1,3-Dichloropropene   | ND               |                  | 0.91          | 0.22 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| Trichloroethene             | 1.6              | J                | 1.1           | 0.19 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| Trichlorofluoromethane      | 1.2              |                  | 1.1           | 0.13 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| Vinyl chloride              | ND               |                  | 0.51          | 0.18 | ug/m3 |   |                 | 07/30/14 00:06  | 1              |
| <b>Surrogate</b>            | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |      |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 4-Bromofluorobenzene (Surr) | 112              |                  | 60 - 140      |      |       |   |                 | 07/30/14 00:06  | 1              |

Client Sample ID: WAA-00-SU-TB-20140724

Lab Sample ID: 140-1739-7

Date Collected: 07/24/14 10:00

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| 1,1,1-Trichloroethane                  | ND     |           | 0.20 | 0.030 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | ND     |           | 0.20 | 0.031 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 0.20 | 0.054 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.20 | 0.026 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.20 | 0.034 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 1.0  | 0.098 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.20 | 0.063 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 0.20 | 0.070 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.20 | 0.047 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.20 | 0.052 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,4-Dichlorobenzene                    | ND     |           | 0.20 | 0.064 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Benzene                                | ND     |           | 0.20 | 0.056 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Benzyl chloride                        | ND     |           | 0.40 | 0.078 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Bromomethane                           | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Carbon tetrachloride                   | ND     |           | 0.20 | 0.038 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Chlorobenzene                          | ND     |           | 0.20 | 0.049 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Chloroethane                           | ND     |           | 0.20 | 0.035 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Chloroform                             | ND     |           | 0.20 | 0.038 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Chloromethane                          | ND     |           | 0.50 | 0.16  | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| cis-1,2-Dichloroethene                 | ND     |           | 0.20 | 0.060 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| cis-1,3-Dichloropropene                | ND     |           | 0.20 | 0.074 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Dichlorodifluoromethane                | ND     |           | 0.20 | 0.068 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Ethylbenzene                           | ND     |           | 0.20 | 0.068 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dibromoethane (EDB)                | ND     |           | 0.20 | 0.044 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Hexachlorobutadiene                    | ND     |           | 1.0  | 0.078 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Methylene Chloride                     | 0.15   | J         | 0.50 | 0.13  | ppb v/v |   |          | 07/30/14 00:49 | 1       |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-00-SU-TB-20140724

Lab Sample ID: 140-1739-7

Date Collected: 07/24/14 10:00

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
| m-Xylene & p-Xylene                    | ND     |           | 0.20 | 0.12  | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| o-Xylene                               | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Styrene                                | ND     |           | 0.20 | 0.058 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Tetrachloroethene                      | ND     |           | 0.20 | 0.040 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Toluene                                | ND     |           | 0.20 | 0.12  | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| trans-1,3-Dichloropropene              | ND     |           | 0.20 | 0.048 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Trichloroethene                        | 0.042  | J         | 0.20 | 0.036 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Trichlorofluoromethane                 | ND     |           | 0.20 | 0.024 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Vinyl chloride                         | ND     |           | 0.20 | 0.071 | ppb v/v |   |          | 07/30/14 00:49 | 1       |
| Analyte                                | Result | Qualifier | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
| 1,1,1-Trichloroethane                  | ND     |           | 1.1  | 0.16  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 1.4  | 0.42  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | ND     |           | 1.5  | 0.24  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 1.1  | 0.29  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.81 | 0.11  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.79 | 0.13  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 7.4  | 0.73  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.98 | 0.31  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 1.4  | 0.22  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 1.2  | 0.42  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.81 | 0.19  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.92 | 0.24  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.98 | 0.32  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 1.2  | 0.39  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,4-Dichlorobenzene                    | ND     |           | 1.2  | 0.38  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Benzene                                | ND     |           | 0.64 | 0.18  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Benzyl chloride                        | ND     |           | 2.1  | 0.40  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Bromomethane                           | ND     |           | 0.78 | 0.12  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Carbon tetrachloride                   | ND     |           | 1.3  | 0.24  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Chlorobenzene                          | ND     |           | 0.92 | 0.23  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Chloroethane                           | ND     |           | 0.53 | 0.092 | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Chloroform                             | ND     |           | 0.98 | 0.19  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Chloromethane                          | ND     |           | 1.0  | 0.33  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| cis-1,2-Dichloroethene                 | ND     |           | 0.79 | 0.24  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| cis-1,3-Dichloropropene                | ND     |           | 0.91 | 0.34  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Dichlorodifluoromethane                | ND     |           | 0.99 | 0.34  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Ethylbenzene                           | ND     |           | 0.87 | 0.30  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| 1,2-Dibromoethane (EDB)                | ND     |           | 1.5  | 0.34  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Hexachlorobutadiene                    | ND     |           | 11   | 0.83  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Methylene Chloride                     | 0.51   | J         | 1.7  | 0.45  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| m-Xylene & p-Xylene                    | ND     |           | 0.87 | 0.52  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| o-Xylene                               | ND     |           | 0.87 | 0.26  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Styrene                                | ND     |           | 0.85 | 0.25  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Tetrachloroethene                      | ND     |           | 1.4  | 0.27  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Toluene                                | ND     |           | 0.75 | 0.45  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| trans-1,3-Dichloropropene              | ND     |           | 0.91 | 0.22  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Trichloroethene                        | 0.23   | J         | 1.1  | 0.19  | ug/m3   |   |          | 07/30/14 00:49 | 1       |
| Trichlorofluoromethane                 | ND     |           | 1.1  | 0.13  | ug/m3   |   |          | 07/30/14 00:49 | 1       |

AUG 12 Aug 14

TestAmerica Knoxville

## Client Sample Results

Client: Tetra Tech EM Inc  
 Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-00-SU-TB-20140724

Lab Sample ID: 140-1739-7

Date Collected: 07/24/14 10:00

Matrix: Air

Date Received: 07/29/14 09:50

Sample Container: Summa Canister 6L

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte                     | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|------|-------|---|----------|----------------|---------|
| Vinyl chloride              | ND        |           | 0.51     | 0.18 | ug/m3 |   |          | 07/30/14 00:49 | 1       |
| Surrogate                   | %Recovery | Qualifier | Limits   |      |       |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 114       |           | 60 - 140 |      |       |   |          | 07/30/14 00:49 | 1       |

HUG  
12 Aug 14

# Surrogate Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Matrix: Air

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID     | Client Sample ID      | BFB<br>(60-140) |
|-------------------|-----------------------|-----------------|
| 140-1739-1        | WAA-01-SU-PS-20140724 | 115             |
| 140-1739-2        | WAA-02-SU-PS-20140724 | 111             |
| 140-1739-3        | WAA-03-SU-PS-20140724 | 113             |
| 140-1739-4        | WAA-04-SU-PS-20140724 | 112             |
| 140-1739-5        | WAA-05-SU-PS-20140724 | 112             |
| 140-1739-6        | WAA-04-SU-DU-20140724 | 112             |
| 140-1739-7        | WAA-00-SU-TB-20140724 | 114             |
| LCS 140-1531/1002 | Lab Control Sample    | 113             |
| MB 140-1531/4     | Method Blank          | 111             |

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)



# QC Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 140-1531/4  
Matrix: Air  
Analysis Batch: 1531

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte                                | MB     | MB        | RL   | MDL   | Unit    | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-------|---------|---|----------|----------------|---------|
|  | Result | Qualifier |      |       |         |   |          |                |         |
| 1,1,1-Trichloroethane                  | ND     |           | 0.20 | 0.030 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,1,2,2-Tetrachloroethane              | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | ND     |           | 0.20 | 0.031 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,1,2-Trichloroethane                  | ND     |           | 0.20 | 0.054 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,1-Dichloroethane                     | ND     |           | 0.20 | 0.026 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,1-Dichloroethene                     | ND     |           | 0.20 | 0.034 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,2,4-Trichlorobenzene                 | ND     |           | 1.0  | 0.098 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.20 | 0.063 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 0.20 | 0.070 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.20 | 0.047 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.20 | 0.052 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 0.20 | 0.065 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,4-Dichlorobenzene                    | ND     |           | 0.20 | 0.064 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Benzene                                | ND     |           | 0.20 | 0.056 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Benzyl chloride                        | ND     |           | 0.40 | 0.078 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Bromomethane                           | ND     |           | 0.20 | 0.032 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Carbon tetrachloride                   | ND     |           | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Chlorobenzene                          | ND     |           | 0.20 | 0.049 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Chloroethane                           | ND     |           | 0.20 | 0.035 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Chloroform                             | ND     |           | 0.20 | 0.038 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Chloromethane                          | ND     |           | 0.50 | 0.16  | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| cis-1,2-Dichloroethene                 | ND     |           | 0.20 | 0.060 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| cis-1,3-Dichloropropene                | ND     |           | 0.20 | 0.074 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Dichlorodifluoromethane                | ND     |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Ethylbenzene                           | ND     |           | 0.20 | 0.068 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dibromoethane (EDB)                | ND     |           | 0.20 | 0.044 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Hexachlorobutadiene                    | ND     |           | 1.0  | 0.078 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Methylene Chloride                     | ND     |           | 0.50 | 0.13  | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| m-Xylene & p-Xylene                    | ND     |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| o-Xylene                               | ND     |           | 0.20 | 0.061 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Styrene                                | ND     |           | 0.20 | 0.058 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Tetrachloroethene                      | ND     |           | 0.20 | 0.040 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Toluene                                | ND     |           | 0.20 | 0.12  | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| trans-1,3-Dichloropropene              | ND     |           | 0.20 | 0.048 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Trichloroethene                        | ND     |           | 0.20 | 0.036 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Trichlorofluoromethane                 | ND     |           | 0.20 | 0.024 | ppb v/v |   |          | 07/29/14 16:02 | 1       |
| Vinyl chloride                         | ND     |           | 0.20 | 0.071 | ppb v/v |   |          | 07/29/14 16:02 | 1       |

| Analyte                               | MB     | MB        | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
|                                       | Result | Qualifier |      |      |       |   |          |                |         |
| 1,1,1-Trichloroethane                 | ND     |           | 1.1  | 0.16 | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.4  | 0.42 | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 1.5  | 0.24 | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.1  | 0.29 | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,1-Dichloroethane                    | ND     |           | 0.81 | 0.11 | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,1-Dichloroethene                    | ND     |           | 0.79 | 0.13 | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 7.4  | 0.73 | ug/m3 |   |          | 07/29/14 16:02 | 1       |

TestAmerica Knoxville



# QC Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-1531/4  
Matrix: Air  
Analysis Batch: 1531

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte                                | MB     | MB        | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-------|-------|---|----------|----------------|---------|
|  | Result | Qualifier |      |       |       |   |          |                |         |
| 1,2,4-Trimethylbenzene                 | ND     |           | 0.98 | 0.31  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND     |           | 1.4  | 0.22  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichlorobenzene                    | ND     |           | 1.2  | 0.42  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichloroethane                     | ND     |           | 0.81 | 0.19  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dichloropropane                    | ND     |           | 0.92 | 0.24  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,3,5-Trimethylbenzene                 | ND     |           | 0.98 | 0.32  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,3-Dichlorobenzene                    | ND     |           | 1.2  | 0.39  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,4-Dichlorobenzene                    | ND     |           | 1.2  | 0.38  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Benzene                                | ND     |           | 0.64 | 0.18  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Benzyl chloride                        | ND     |           | 2.1  | 0.40  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Bromomethane                           | ND     |           | 0.78 | 0.12  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Carbon tetrachloride                   | ND     |           | 1.3  | 0.24  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Chlorobenzene                          | ND     |           | 0.92 | 0.23  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Chloroethane                           | ND     |           | 0.53 | 0.092 | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Chloroform                             | ND     |           | 0.98 | 0.19  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Chloromethane                          | ND     |           | 1.0  | 0.33  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| cis-1,2-Dichloroethene                 | ND     |           | 0.79 | 0.24  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| cis-1,3-Dichloropropene                | ND     |           | 0.91 | 0.34  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Dichlorodifluoromethane                | ND     |           | 0.99 | 0.34  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Ethylbenzene                           | ND     |           | 0.87 | 0.30  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| 1,2-Dibromoethane (EDB)                | ND     |           | 1.5  | 0.34  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Hexachlorobutadiene                    | ND     |           | 11   | 0.83  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Methylene Chloride                     | ND     |           | 1.7  | 0.45  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| m-Xylene & p-Xylene                    | ND     |           | 0.87 | 0.52  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| o-Xylene                               | ND     |           | 0.87 | 0.26  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Styrene                                | ND     |           | 0.85 | 0.25  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Tetrachloroethene                      | ND     |           | 1.4  | 0.27  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Toluene                                | ND     |           | 0.75 | 0.45  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| trans-1,3-Dichloropropene              | ND     |           | 0.91 | 0.22  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Trichloroethene                        | ND     |           | 1.1  | 0.19  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Trichlorofluoromethane                 | ND     |           | 1.1  | 0.13  | ug/m3 |   |          | 07/29/14 16:02 | 1       |
| Vinyl chloride                         | ND     |           | 0.51 | 0.18  | ug/m3 |   |          | 07/29/14 16:02 | 1       |

| Surrogate                   | MB        | MB        | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
|                             | %Recovery | Qualifier |          |          |                |         |
| 4-Bromofluorobenzene (Surr) | 111       |           | 60 - 140 |          | 07/29/14 16:02 | 1       |

Lab Sample ID: LCS 140-1531/1002  
Matrix: Air  
Analysis Batch: 1531

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte                               | Spike Added | LCS Result | LCS Qualifier | Unit    | D | %Rec | %Rec. Limits |
|---------------------------------------|-------------|------------|---------------|---------|---|------|--------------|
|                                       |             |            |               |         |   |      |              |
| 1,1,2,2-Tetrachloroethane             | 2.00        | 1.74       |               | ppb v/v |   | 87   | 70 - 130     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.00        | 1.85       |               | ppb v/v |   | 92   | 70 - 130     |
| 1,1,2-Trichloroethane                 | 2.00        | 1.72       |               | ppb v/v |   | 86   | 70 - 130     |
| 1,1-Dichloroethane                    | 2.00        | 1.94       |               | ppb v/v |   | 97   | 70 - 130     |
| 1,1-Dichloroethene                    | 2.00        | 1.78       |               | ppb v/v |   | 89   | 70 - 130     |

TestAmerica Knoxville

# QC Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-1531/1002  
Matrix: Air  
Analysis Batch: 1531

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte                                | Spike Added | LCS Result | LCS Qualifier | Unit    | D | %Rec | %Rec. Limits |
|--|-------------|------------|---------------|---------|---|------|--------------|
| 1,2,4-Trichlorobenzene                 | 2.00        | 1.86       |               | ppb v/v |   | 93   | 60 - 140     |
| 1,2,4-Trimethylbenzene                 | 2.00        | 1.77       |               | ppb v/v |   | 88   | 70 - 130     |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00        | 2.29       |               | ppb v/v |   | 115  | 60 - 140     |
| 1,2-Dichlorobenzene                    | 2.00        | 1.87       |               | ppb v/v |   | 94   | 70 - 130     |
| 1,2-Dichloroethane                     | 2.00        | 1.72       |               | ppb v/v |   | 86   | 70 - 130     |
| 1,2-Dichloropropane                    | 2.00        | 1.61       |               | ppb v/v |   | 80   | 70 - 130     |
| 1,3,5-Trimethylbenzene                 | 2.00        | 1.63       |               | ppb v/v |   | 81   | 70 - 130     |
| 1,3-Dichlorobenzene                    | 2.00        | 1.78       |               | ppb v/v |   | 89   | 70 - 130     |
| 1,4-Dichlorobenzene                    | 2.00        | 1.80       |               | ppb v/v |   | 90   | 70 - 130     |
| Benzene                                | 2.00        | 1.54       |               | ppb v/v |   | 77   | 70 - 130     |
| Benzyl chloride                        | 2.00        | 1.95       |               | ppb v/v |   | 97   | 70 - 130     |
| Bromomethane                           | 2.00        | 2.52       |               | ppb v/v |   | 126  | 70 - 130     |
| Carbon tetrachloride                   | 2.00        | 1.79       |               | ppb v/v |   | 90   | 70 - 130     |
| Chlorobenzene                          | 2.00        | 1.69       |               | ppb v/v |   | 84   | 70 - 130     |
| Chloroethane                           | 2.00        | 2.19       |               | ppb v/v |   | 109  | 70 - 130     |
| Chloroform                             | 2.00        | 2.21       |               | ppb v/v |   | 110  | 70 - 130     |
| Chloromethane                          | 2.00        | 1.88       |               | ppb v/v |   | 94   | 60 - 140     |
| cis-1,2-Dichloroethene                 | 2.00        | 1.89       |               | ppb v/v |   | 94   | 70 - 130     |
| cis-1,3-Dichloropropene                | 2.00        | 1.87       |               | ppb v/v |   | 93   | 70 - 130     |
| Dichlorodifluoromethane                | 2.00        | 2.08       |               | ppb v/v |   | 104  | 60 - 140     |
| Ethylbenzene                           | 2.00        | 1.71       |               | ppb v/v |   | 86   | 70 - 130     |
| 1,2-Dibromoethane (EDB)                | 2.00        | 1.91       |               | ppb v/v |   | 96   | 70 - 130     |
| Hexachlorobutadiene                    | 2.00        | 1.88       |               | ppb v/v |   | 94   | 60 - 140     |
| Methylene Chloride                     | 2.00        | 1.61       |               | ppb v/v |   | 81   | 70 - 130     |
| m-Xylene & p-Xylene                    | 4.00        | 3.55       |               | ppb v/v |   | 89   | 70 - 130     |
| o-Xylene                               | 2.00        | 1.70       |               | ppb v/v |   | 85   | 70 - 130     |
| Styrene                                | 2.00        | 2.00       |               | ppb v/v |   | 100  | 70 - 130     |
| Tetrachloroethene                      | 2.00        | 1.61       |               | ppb v/v |   | 81   | 70 - 130     |
| Toluene                                | 2.00        | 1.53       |               | ppb v/v |   | 76   | 70 - 130     |
| trans-1,3-Dichloropropene              | 2.00        | 1.84       |               | ppb v/v |   | 92   | 70 - 130     |
| Trichloroethene                        | 2.00        | 1.62       |               | ppb v/v |   | 81   | 70 - 130     |
| Trichlorofluoromethane                 | 2.00        | 2.15       |               | ppb v/v |   | 107  | 60 - 140     |
| Vinyl chloride                         | 2.00        | 2.02       |               | ppb v/v |   | 101  | 70 - 130     |

| Analyte                                | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|--|-------------|------------|---------------|-------|---|------|--------------|
| 1,1,1-Trichloroethane                  | 11          | 12.2       |               | ug/m3 |   | 112  | 70 - 130     |
| 1,1,2,2-Tetrachloroethane              | 14          | 11.9       |               | ug/m3 |   | 87   | 70 - 130     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  | 15          | 14.2       |               | ug/m3 |   | 92   | 70 - 130     |
| 1,1,2-Trichloroethane                  | 11          | 9.38       |               | ug/m3 |   | 86   | 70 - 130     |
| 1,1-Dichloroethane                     | 8.1         | 7.86       |               | ug/m3 |   | 97   | 70 - 130     |
| 1,1-Dichloroethene                     | 7.9         | 7.04       |               | ug/m3 |   | 89   | 70 - 130     |
| 1,2,4-Trichlorobenzene                 | 15          | 13.8       |               | ug/m3 |   | 93   | 60 - 140     |
| 1,2,4-Trimethylbenzene                 | 9.8         | 8.70       |               | ug/m3 |   | 88   | 70 - 130     |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14          | 16.0       |               | ug/m3 |   | 115  | 60 - 140     |
| 1,2-Dichlorobenzene                    | 12          | 11.3       |               | ug/m3 |   | 94   | 70 - 130     |
| 1,2-Dichloroethane                     | 8.1         | 6.97       |               | ug/m3 |   | 86   | 70 - 130     |

TestAmerica Knoxville



# QC Sample Results

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-1531/1002

Matrix: Air

Analysis Batch: 1531

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte                   | Spike | LCS    | LCS       | Unit  | D | %Rec | %Rec.    |
|---------------------------|-------|--------|-----------|-------|---|------|----------|
|                           | Added | Result | Qualifier |       |   |      |          |
| 1,2-Dichloropropane       | 9.2   | 7.43   |           | ug/m3 |   | 80   | 70 - 130 |
| 1,3,5-Trimethylbenzene    | 9.8   | 8.00   |           | ug/m3 |   | 81   | 70 - 130 |
| 1,3-Dichlorobenzene       | 12    | 10.7   |           | ug/m3 |   | 89   | 70 - 130 |
| 1,4-Dichlorobenzene       | 12    | 10.8   |           | ug/m3 |   | 90   | 70 - 130 |
| Benzene                   | 6.4   | 4.91   |           | ug/m3 |   | 77   | 70 - 130 |
| Benzyl chloride           | 10    | 10.1   |           | ug/m3 |   | 97   | 70 - 130 |
| Bromomethane              | 7.8   | 9.80   |           | ug/m3 |   | 126  | 70 - 130 |
| Carbon tetrachloride      | 13    | 11.3   |           | ug/m3 |   | 90   | 70 - 130 |
| Chlorobenzene             | 9.2   | 7.76   |           | ug/m3 |   | 84   | 70 - 130 |
| Chloroethane              | 5.3   | 5.77   |           | ug/m3 |   | 109  | 70 - 130 |
| Chloroform                | 9.8   | 10.8   |           | ug/m3 |   | 110  | 70 - 130 |
| Chloromethane             | 4.1   | 3.88   |           | ug/m3 |   | 94   | 60 - 140 |
| cis-1,2-Dichloroethene    | 7.9   | 7.48   |           | ug/m3 |   | 94   | 70 - 130 |
| cis-1,3-Dichloropropene   | 9.1   | 8.49   |           | ug/m3 |   | 93   | 70 - 130 |
| Dichlorodifluoromethane   | 9.9   | 10.3   |           | ug/m3 |   | 104  | 60 - 140 |
| Ethylbenzene              | 8.7   | 7.43   |           | ug/m3 |   | 86   | 70 - 130 |
| 1,2-Dibromoethane (EDB)   | 15    | 14.7   |           | ug/m3 |   | 96   | 70 - 130 |
| Hexachlorobutadiene       | 21    | 20.1   |           | ug/m3 |   | 94   | 60 - 140 |
| Methylene Chloride        | 6.9   | 5.61   |           | ug/m3 |   | 81   | 70 - 130 |
| m-Xylene & p-Xylene       | 17    | 15.4   |           | ug/m3 |   | 89   | 70 - 130 |
| o-Xylene                  | 8.7   | 7.38   |           | ug/m3 |   | 85   | 70 - 130 |
| Styrene                   | 8.5   | 8.53   |           | ug/m3 |   | 100  | 70 - 130 |
| Tetrachloroethene         | 14    | 10.9   |           | ug/m3 |   | 81   | 70 - 130 |
| Toluene                   | 7.5   | 5.75   |           | ug/m3 |   | 76   | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1   | 8.34   |           | ug/m3 |   | 92   | 70 - 130 |
| Trichloroethene           | 11    | 8.69   |           | ug/m3 |   | 81   | 70 - 130 |
| Trichlorofluoromethane    | 11    | 12.1   |           | ug/m3 |   | 107  | 60 - 140 |
| Vinyl chloride            | 5.1   | 5.17   |           | ug/m3 |   | 101  | 70 - 130 |

| Surrogate                   | LCS       | LCS       | Limits   |
|-----------------------------|-----------|-----------|----------|
|                             | %Recovery | Qualifier |          |
| 4-Bromofluorobenzene (Surr) | 113       |           | 60 - 140 |



# QC Association Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

## Air - GC/MS VOA

### Analysis Batch: 1531

| Lab Sample ID     | Client Sample ID      | Prep Type | Matrix | Method | Prep Batch |
|-------------------|-----------------------|-----------|--------|--------|------------|
| 140-1739-1        | WAA-01-SU-PS-20140724 | Total/NA  | Air    | TO-15  |            |
| 140-1739-2        | WAA-02-SU-PS-20140724 | Total/NA  | Air    | TO-15  |            |
| 140-1739-3        | WAA-03-SU-PS-20140724 | Total/NA  | Air    | TO-15  |            |
| 140-1739-4        | WAA-04-SU-PS-20140724 | Total/NA  | Air    | TO-15  |            |
| 140-1739-5        | WAA-05-SU-PS-20140724 | Total/NA  | Air    | TO-15  |            |
| 140-1739-6        | WAA-04-SU-DU-20140724 | Total/NA  | Air    | TO-15  |            |
| 140-1739-7        | WAA-00-SU-TB-20140724 | Total/NA  | Air    | TO-15  |            |
| LCS 140-1531/1002 | Lab Control Sample    | Total/NA  | Air    | TO-15  |            |
| MB 140-1531/4     | Method Blank          | Total/NA  | Air    | TO-15  |            |

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# Lab Chronicle

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

Client Sample ID: WAA-01-SU-PS-20140724

Lab Sample ID: 140-1739-1

Date Collected: 07/24/14 08:50

Matrix: Air

Date Received: 07/29/14 09:50

| Prep Type         | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA          | Analysis   | TO-15        |     | 1          | 200 mL         | 500 mL       | 1531         | 07/29/14 20:24       | HMT     | TAL KNX |
| Instrument ID: MG |            |              |     |            |                |              |              |                      |         |         |

Client Sample ID: WAA-02-SU-PS-20140724

Lab Sample ID: 140-1739-2

Date Collected: 07/24/14 09:21

Matrix: Air

Date Received: 07/29/14 09:50

| Prep Type         | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA          | Analysis   | TO-15        |     | 1          | 200 mL         | 500 mL       | 1531         | 07/29/14 21:07       | HMT     | TAL KNX |
| Instrument ID: MG |            |              |     |            |                |              |              |                      |         |         |

Client Sample ID: WAA-03-SU-PS-20140724

Lab Sample ID: 140-1739-3

Date Collected: 07/24/14 09:42

Matrix: Air

Date Received: 07/29/14 09:50

| Prep Type         | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA          | Analysis   | TO-15        |     | 1          | 200 mL         | 500 mL       | 1531         | 07/29/14 21:51       | HMT     | TAL KNX |
| Instrument ID: MG |            |              |     |            |                |              |              |                      |         |         |

Client Sample ID: WAA-04-SU-PS-20140724

Lab Sample ID: 140-1739-4

Date Collected: 07/24/14 09:50

Matrix: Air

Date Received: 07/29/14 09:50

| Prep Type         | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA          | Analysis   | TO-15        |     | 1          | 200 mL         | 500 mL       | 1531         | 07/29/14 22:37       | HMT     | TAL KNX |
| Instrument ID: MG |            |              |     |            |                |              |              |                      |         |         |

Client Sample ID: WAA-05-SU-PS-20140724

Lab Sample ID: 140-1739-5

Date Collected: 07/24/14 09:31

Matrix: Air

Date Received: 07/29/14 09:50

| Prep Type         | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA          | Analysis   | TO-15        |     | 1          | 200 mL         | 500 mL       | 1531         | 07/29/14 23:22       | HMT     | TAL KNX |
| Instrument ID: MG |            |              |     |            |                |              |              |                      |         |         |

Client Sample ID: WAA-04-SU-DU-20140724

Lab Sample ID: 140-1739-6

Date Collected: 07/24/14 09:52

Matrix: Air

Date Received: 07/29/14 09:50

| Prep Type         | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA          | Analysis   | TO-15        |     | 1          | 200 mL         | 500 mL       | 1531         | 07/30/14 00:06       | HMT     | TAL KNX |
| Instrument ID: MG |            |              |     |            |                |              |              |                      |         |         |

TestAmerica Knoxville

# Lab Chronicle

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

**Client Sample ID: WAA-00-SU-TB-20140724**

**Lab Sample ID: 140-1739-7**

Date Collected: 07/24/14 10:00

Matrix: Air

Date Received: 07/29/14 09:50

| Prep Type         | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-------------------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA          | Analysis   | TO-15        |     | 1          | 200 mL         | 500 mL       | 1531         | 07/30/14 00:49       | HMT     | TAL KNX |
| Instrument ID: MG |            |              |     |            |                |              |              |                      |         |         |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

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# Certification Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

## Laboratory: TestAmerica Knoxville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority              | Program       | EPA Region | Certification ID | Expiration Date |
|------------------------|---------------|------------|------------------|-----------------|
|                        | AFCEE         |            | N/A              |                 |
| Arkansas DEQ           | State Program | 6          | 88-0688          | 06-17-15        |
| California             | State Program | 9          | 2423             | 06-30-16        |
| Colorado               | State Program | 8          | N/A              | 02-28-15        |
| Connecticut            | State Program | 1          | PH-0223          | 09-30-15        |
| Florida                | NELAP         | 4          | E87177           | 06-30-15        |
| Georgia                | State Program | 4          | 906              | 04-13-17        |
| Hawaii                 | State Program | 9          | N/A              | 04-13-15        |
| Iowa                   | State Program | 7          | 375              | 08-01-14        |
| Kansas                 | NELAP         | 7          | E-10349          | 10-31-14        |
| Kentucky (DW)          | State Program | 4          | 90101            | 12-31-14        |
| L-A-B                  | DoD ELAP      |            | L2311            | 02-13-16        |
| Louisiana              | NELAP         | 6          | LA110001         | 12-31-14        |
| Maryland               | State Program | 3          | 277              | 03-31-15        |
| Michigan               | State Program | 5          | 9933             | 04-13-17        |
| Nevada                 | State Program | 9          | TN00009          | 07-31-15        |
| New Jersey             | NELAP         | 2          | TN001            | 06-30-15        |
| New York               | NELAP         | 2          | 10781            | 03-31-15        |
| North Carolina (DW)    | State Program | 4          | 21705            | 07-31-15        |
| North Carolina (WW/SW) | State Program | 4          | 64               | 12-31-14        |
| Ohio VAP               | State Program | 5          | CL0059           | 03-26-15        |
| Oklahoma               | State Program | 6          | 9415             | 08-31-14        |
| Pennsylvania           | NELAP         | 3          | 68-00576         | 12-31-14        |
| South Carolina         | State Program | 4          | 84001            | 06-30-14 *      |
| Tennessee              | State Program | 4          | 2014             | 04-13-17        |
| Texas                  | NELAP         | 6          | T104704380-TX    | 08-31-14        |
| USDA                   | Federal       |            | P330-13-00260    | 08-29-16        |
| Utah                   | NELAP         | 8          | QUAN3            | 07-31-15        |
| Virginia               | NELAP         | 3          | 460176           | 09-14-14        |
| Virginia               | State Program | 3          | 165              | 06-30-15        |
| Washington             | State Program | 10         | C593             | 01-19-15        |
| West Virginia (DW)     | State Program | 3          | 9955C            | 12-31-14        |
| West Virginia DEP      | State Program | 3          | 345              | 04-30-15        |
| Wisconsin              | State Program | 5          | 998044300        | 08-31-14        |

\* Certification renewal pending - certification considered valid.



# Method Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

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| Method | Method Description                        | Protocol | Laboratory |
|--------|---|----------|------------|
| TO-15  | Volatile Organic Compounds in Ambient Air | EPA      | TAL KNX    |

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**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

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# Sample Summary

Client: Tetra Tech EM Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1739-1

| Lab Sample ID | Client Sample ID      | Matrix | Collected      | Received       |
|---------------|-----------------------|--------|----------------|----------------|
| 140-1739-1    | WAA-01-SU-PS-20140724 | Air    | 07/24/14 08:50 | 07/29/14 09:50 |
| 140-1739-2    | WAA-02-SU-PS-20140724 | Air    | 07/24/14 09:21 | 07/29/14 09:50 |
| 140-1739-3    | WAA-03-SU-PS-20140724 | Air    | 07/24/14 09:42 | 07/29/14 09:50 |
| 140-1739-4    | WAA-04-SU-PS-20140724 | Air    | 07/24/14 09:50 | 07/29/14 09:50 |
| 140-1739-5    | WAA-05-SU-PS-20140724 | Air    | 07/24/14 09:31 | 07/29/14 09:50 |
| 140-1739-6    | WAA-04-SU-DU-20140724 | Air    | 07/24/14 09:52 | 07/29/14 09:50 |
| 140-1739-7    | WAA-00-SU-TB-20140724 | Air    | 07/24/14 10:00 | 07/29/14 09:50 |

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**TestAmerica Knoxville**

5815 Middlebrook Pike

Knoxville, TN 37921  
phone 865.291.3000 fax 865.584.4315

**Canister Samples Chain of Custody Record**

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

| <b>Client Contact Information</b>  |                   | <b>Project Manager: Dave Kinroth</b>      |           | <b>Samples Collected By: Dave Kinroth</b>      |                                       |                    |             |                               | <b>COC No:</b><br>1 of 1 COCs                                 |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
|--|-------------------|---|-----------|--|---------------------------------------|--------------------|-------------|-------------------------------|---|--------|----------------|---------------------------|-----------|------|---|-------------|------------|-------------|----------|--------------|---|------------------------|
| Company Name: Tetra Tech Inc.  |                   | Phone: 314-517-6798                       |           |  |                                       |                    |             |                               | For Lab Use Only:<br>Walk-in Client: <input type="checkbox"/> |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Address: 415 Oak Street  |                   | Email: emily.fisher@tetratech.com         |           |  |                                       |                    |             |                               | Lab Sampling: <input type="checkbox"/>                        |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| City/State/Zip: Kansas City, MO 64106  |                   | Site Contact: Dave Kinroth - 314-517-6787 |           |  |                                       |                    |             |                               | Job / SDG No.:<br>(See below for Add'l Items)                 |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Phone: 816-412-1755  |                   | TA Contact: Emily Fisher/Rob Monnig       |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| FAX: 816-410-1748  |                   | <b>Analysis Turnaround Time</b>           |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Project Name: West Lake Landfill   |                   | Standard (Specific): 10 days              |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Site/Location: Bridgeton, MO   |                   | Rush (Specify):                           |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| P O # 1105352  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Sample Identification  | Sample Date(s)    | Time Start                                | Time Stop | Canister Vacuum in Field, 'Hg (Start)'         | Canister Vacuum in Field, 'Hg (Stop)' | Flow Controller ID | Canister ID | TO-15 (Med / Std / Low / SIM) | IMA-APH   | EPA 3C | EPA 25C / 25.3 | ASTM D-1946 / 1945 / 3688 | EPA 15/16 | TO-3 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) | Sample Specific Notes: |
|  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| WAA-01-SU-PS-20140724  | 7/23/14 - 7/24/14 | 9:25                                      | 8:50      | -29.1  | -2.0                                  | 10450              | 09542       | X                             |   |        |                |                           |           |      |   |             |            | X           |          |              |   | - 09592                |
| WAA-02-SU-PS-20140724  | 7/23/14 - 7/24/14 | 9:40                                      | 9:21      | -29.1  | -3.0                                  | 09659              | 09509       | X                             |   |        |                |                           |           |      |   |             |            | X           |          |              |   |                        |
| WAA-03-SU-PS-20140724  | 7/23/14 - 7/24/14 | 10:01                                     | 9:42      | -29.2  | -2.0                                  | 10872              | 09917       | X                             |   |        |                |                           |           |      |   |             |            | X           |          |              |   |                        |
| WAA-04-SU-PS-20140724  | 7/23/14 - 7/24/14 | 10:11                                     | 9:50      | -29.1  | -0.5                                  | 10462              | 09878       | X                             |   |        |                |                           |           |      |   |             |            | X           |          |              |   |                        |
| WAA-05-SU-PS-20140724  | 7/23/14 - 7/24/14 | 9:51                                      | 9:31      | -29.2  | -0.5                                  | 10870              | 10118       | X                             |   |        |                |                           |           |      |   |             |            | X           |          |              |   |                        |
| WAA-04-SU-DU-20140724  | 7/23/14 - 7/24/14 | 10:11                                     | 9:52      | -29.1  | -1.5                                  | 09857              | 10482       | X                             |   |        |                |                           |           |      |   |             |            | X           |          |              |   |                        |
| WAA-00-SU-TB-20140724  | 7/23/14 - 7/24/14 | 10:11                                     | 10:00     | -26.0  | -26                                   | 10435              | 09533       | X                             |   |        |                |                           |           |      |   |             |            | X           |          |              |   |                        |
| <b>Temperature (Fahrenheit)</b>  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Interior      Ambient  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Start      81  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Stop      70   |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| <b>Pressure (inches of Hg)</b>   |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Interior      Ambient  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Start      30.02   |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| Stop      30.15  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| 140-1739 Chain of Custody<br>Received @ ambient, No custody seal<br>2 boxes, KW 7/29/14<br>FedEx PO<br>TrK# 5299 0208 4427<br>" " 4416 |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| <b>Special Instructions/QC Requirements &amp; Comments:</b>  |                   |   |           |  |                                       |                    |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| <b>Samples Shipped by:</b>   |                   | <b>Date / Time:</b>                       |           | <b>Samples Received by:</b><br>KW 7/29/14 0950 |                                       |                    |             |                               | 7 Cans  |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| <b>Samples Relinquished by:</b>  |                   | <b>Date / Time:</b>                       |           | <b>Received by:</b>                            |                                       |                    |             |                               | 7 Flow  |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| <b>Relinquished by:</b>  |                   | <b>Date / Time:</b>                       |           | <b>Received by:</b>                            |                                       |                    |             |                               | 7 CC  |        |                |                           |           |      |   |             |            |             |          |              |   |                        |
| <b>Lab Use Only:</b>   |                   | <b>Shipper Name:</b>                      |           | <b>Opened by:</b>                              |                                       | <b>Condition:</b>  |             |                               |   |        |                |                           |           |      |   |             |            |             |          |              |   |                        |

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## Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1739-1

Login Number: 1739

List Source: TestAmerica Knoxville

List Number: 1

Creator: Wilson, Ken

| Question  | Answer | Comment                     |
|---|--------|-----------------------------|
| Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.      | N/A    |                             |
| The cooler's custody seal, if present, is intact.   | N/A    |                             |
| Sample custody seals, if present, are intact.   | N/A    |                             |
| The cooler or samples do not appear to have been compromised or tampered with.                      | True   |                             |
| Samples were received on ice.   | N/A    |                             |
| Cooler Temperature is acceptable.   | N/A    |                             |
| Cooler Temperature is recorded.   | N/A    |                             |
| COC is present.   | True   |                             |
| COC is filled out in ink and legible.   | True   |                             |
| COC is filled out with all pertinent information.   | True   |                             |
| Is the Field Sampler's name present on COC?   | True   |                             |
| There are no discrepancies between the containers received and the COC.                             | True   |                             |
| Samples are received within Holding Time.   | True   |                             |
| Sample containers have legible labels.  | True   |                             |
| Containers are not broken or leaking.   | N/A    | This is checked in the lab. |
| Sample collection date/times are provided.  | True   |                             |
| Appropriate sample containers are used.   | True   |                             |
| Sample bottles are completely filled.   | N/A    |                             |
| Sample Preservation Verified.   | N/A    |                             |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs                    | N/A    |                             |
| Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4"). | N/A    |                             |
| Multiphasic samples are not present.  | N/A    |                             |
| Samples do not require splitting or compositing.  | N/A    |                             |
| Residual Chlorine Checked.  | N/A    |                             |



